National Institute of Environmental Health Sciences

Climatic factors are associated with childhood eczema prevalence in the United States

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Year: 2013
Journal: The Journal of Investigative Dermatology. 133 (7): 1752-1759

Abstract:

Atopic dermatitis (AD, also known as atopic eczema) is driven by a complex relationship between genetic predisposition and environmental exposures. We sought to determine the impact of specific climatic factors on the prevalence of AD in the United states. We used a merged analysis of the 2007 National Survey of Children's Health (NSCH) from a representative sample of 91,642 children aged 0-17 years and the 2006-2007 National Climate Data Center and Weather Service measurements of relative humidity (%), indoor heating degree days (HDD), clear-sky UV indices, ozone levels, and outdoor air temperature. As a proxy for AD, we used an affirmative response to the NSCH survey question asking whether the participant's child has been given a doctor diagnosis of "eczema or any other kind of skin allergy" in the previous 12 months. In multivariate models controlling for sex, race/ethnicity, age, and household income, eczema prevalence was significantly lower with the highest-quartile mean annual relative humidity (logistic regression, adjusted odds ratio (95% confidence interval)Euro Surveillance (Bulletin Europeen Sur Les Maladies Transmissibles; European Communicable Disease Bulletin)0.82 (0.71-0.96), PEuro Surveillance (Bulletin Europeen Sur Les Maladies Transmissibles; European Communicable Disease Bulletin)0.01) and issued UV index (0.73 (0.64-0.84), P

Source: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3646081

Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Air Pollution, Meteorological Factors, Solar Radiation, Temperature

Air Pollution: Ozone

Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

Geographic Location:

resource focuses on specific location

United States

Health Impact: ☑

specification of health effect or disease related to climate change exposure

Dermatological Effect

Mitigation/Adaptation: ☑

mitigation or adaptation strategy is a focus of resource

Adaptation

Population of Concern: A focus of content

Population of Concern: ☑

populations at particular risk or vulnerability to climate change impacts

Children, Low Socioeconomic Status, Racial/Ethnic Subgroup

Other Racial/Ethnic Subgroup: African American;Hispanic

Resource Type: ☑

format or standard characteristic of resource

Research Article

Timescale: ☑

time period studied

Time Scale Unspecified

Vulnerability/Impact Assessment: ☑

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content